

REMARKS

Claims 23-46 are pending in this case. Claims 23 and 35 have been amended hereinabove. Based upon the following remarks, it is respectfully submitted that all pending claims are allowable.

A. Double Patenting

Claims 23 and 35 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 1 of U.S. Pat. No. 7,062,666, in view of Jones et al., U.S. Patent No. 4,750,112 ("*Jones*"), and further in view of Ward et al., U.S. Patent No. 4,821,176 ("*Ward*"). This rejection is respectfully traversed.

The remarks for this rejection as submitted in previous amendments of record are hereby reiterated by incorporation herein by reference. Further, independent claims 23 and 35 have been amended hereinabove to further emphasize a distinction of the presently claimed invention over claim 1 of U.S. Pat. No. 7,062,666, and the disclosed subject matter of *Jones* and *Ward*. For reference in this discussion, claim 23 as amended now appears as follows (with emphasis added):

A method for suspending operation of a pipelined data processor to reduce power consumption, comprising:

receiving an enabled first clock signal;

receiving one or more data processing instructions with a first portion of a pipeline subcircuit;

executing said one or more data processing instructions in response to said enabled first clock signal with a second portion of said pipeline subcircuit subsequent to said first pipeline subcircuit portion; and

receiving an operation suspension instruction with said first pipeline subcircuit

portion and in response thereto

preventing advancement of an instruction unrelated to said one or more data processing instructions into said second pipeline subcircuit portion, and

asserting one or more control signals from said pipeline subcircuit,  
followed by

disabling said first clock signal and thereby suspending execution of any instructions by said second pipeline subcircuit portion, including said executing of said one or more data processing instructions.

In previous Office Actions, the Examiner has stated that machine instruction I21 of *Jones* is an operation suspension instruction. This has been consistently disputed and remains so. However, notwithstanding this, it is further submitted that, even if machine instruction I21 of *Jones* is an operation suspension instruction, the claims as amended hereinabove nonetheless recite patentably distinct subject matter.

First, as emphasized with the newly amended language of claim 23, in response to receiving an operation suspension instruction with the first pipeline subcircuit portion, “advancement of an instruction unrelated to [the] one or more data processing instructions into said second pipeline subcircuit portion” (emphasis added) is prevented. This is directly contrary to the disclosure of *Jones* at column 9, lines 25-34, wherein it is expressly described that in response to receiving machine instruction I21, as cited and interpreted by the Examiner, “the PCU 1 suspends the IP ... and a NOP cycle is introduced into the CF stage of the EP” (emphasis added). In other words, a “NOP” (no operation) instruction (*Jones* at column 2, line 61) is advanced into the execution pipeline (“EP” per *Jones* at column 4, line 30).

Second, as further emphasized with the newly amended language of claim 23, in further response to receiving an operation suspension instruction with the first pipeline subcircuit portion, the first clock signal is disabled, “thereby suspending execution of any instructions by [the] second pipeline subcircuit portion, including [the] executing of [the] one or more data

processing instructions” (emphasis added). This is further directly contrary to the disclosure of *Jones* in Figure 5, in which it is expressly shown that the NOP instruction (identified as “N”) is executed within the execution pipeline during time periods T24-T27 (as noted in *Jones* at column 9, lines 35-37).

Third, even if *Ward* discloses suspension of execution of data processing instructions upon disablement of a clock signal, as cited and interpreted by the Examiner, such disclosure is immaterial to and not appropriate as a basis for combining such disclosure of *Ward* with the cited disclosure of *Jones*. More specifically, suspending the execution of instructions, as taught by *Ward* according to the citation by the Examiner, in the context of the disclosed system of *Jones* would be contrary to the express purpose and operation of the system of *Jones*. In other words, contrary to suspending the execution of instructions, the system of *Jones* is expressly described as maintaining the execution of instructions with the introduction and execution of the NOP instruction within the execution pipeline during time periods T24-T27 (as discussed immediately hereinabove). Clearly, the suspension of instruction execution as taught by *Ward* would render the system of *Jones* unsatisfactory for its intended purpose and would materially change a significant principle of its operation, i.e., maintaining constant operation of its execution pipeline.

B. §103 Rejection

Claims 23-24, 26, 28-36, 38 and 40-46 are rejected under 35 U.S.C. §103(a) as being unpatentable over *Jones* in view of *Ward*. This rejection is respectfully traversed and it is submitted that these claims recite subject matter which is patentable over *Jones* and *Ward*.

Regarding independent claims 23 and 35, remarks as submitted in previous amendments of record are hereby reiterated by incorporation herein by reference. Further, with reference to the remarks in Part A hereinabove, which are incorporated herein by reference, it is respectfully submitted that these claims are clearly patentable over *Jones* and *Ward*.

Regarding dependent claims 24, 26, 28-34, 36, 38 and 40-46, in accordance with and with reference to the remarks in this Part immediately hereinabove, it is submitted that independent claims 23 and 35 recite subject matter which is patentable over *Jones* and *Ward*. Therefore, it is still further submitted that their respective dependent claims 24, 26, 28-34, 36, 38 and 40-46 recite subject matter which is patentable over *Jones* and *Ward* as well, particularly in view of these latter claims' further recited limitations.

C. Allowable Subject Matter

Claims 25, 27, 37 and 39 are allowed.

D. Conclusion

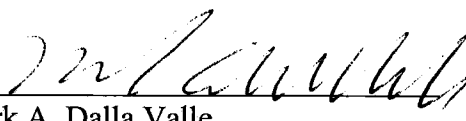
Claims 23-46 remain pending in this case. Based upon the foregoing remarks, it is respectfully submitted that these claims are allowable and this application is in condition for allowance. Reconsideration and early allowance are submitted requested.

Respectfully submitted,

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By: .

  
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